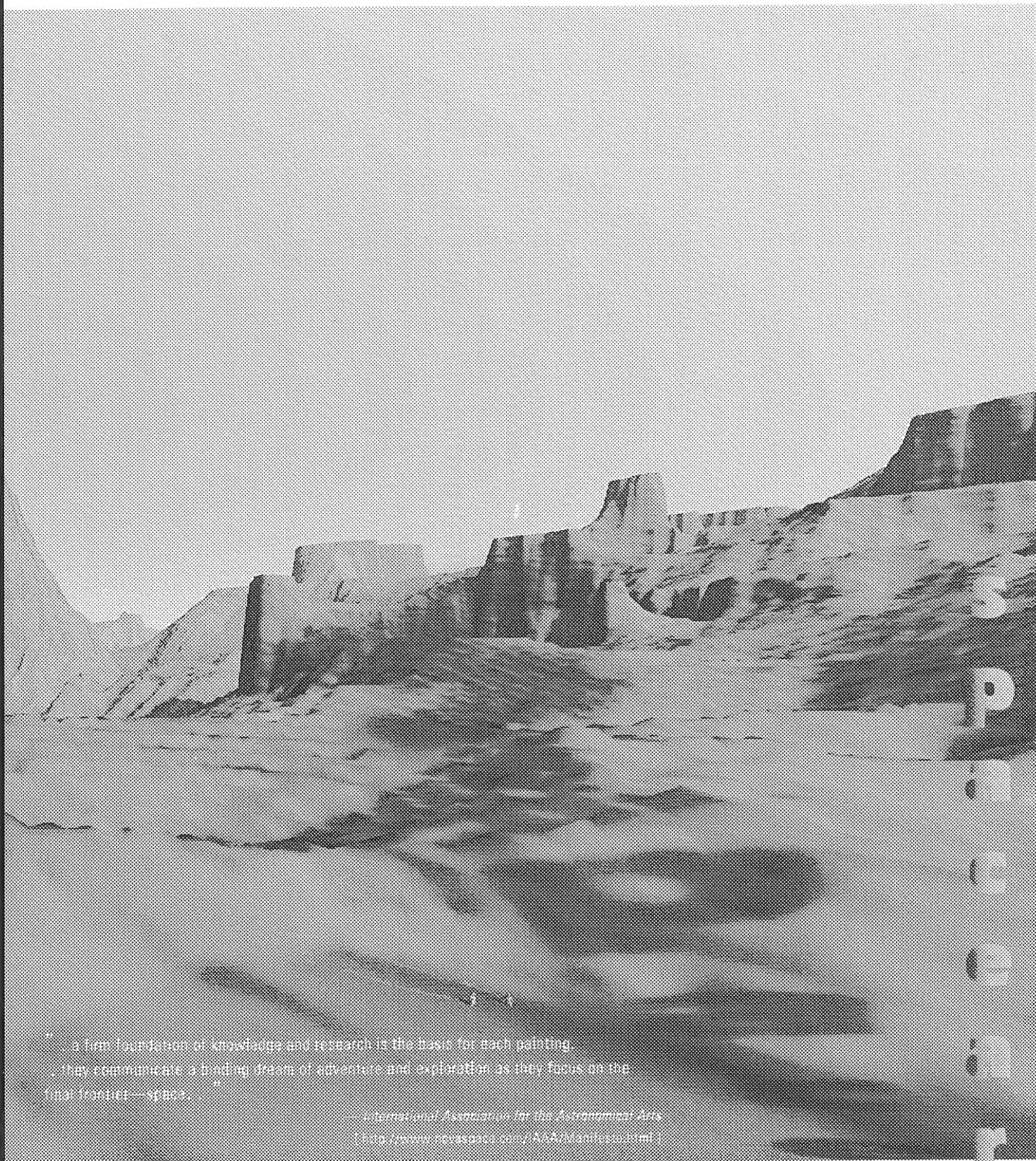


Vol . 17/No . 8

July/August



"... a firm foundation of knowledge and research is the basis for each painting. ... they communicate a trading dream of adventure and exploration as they focus on the final frontier—space."

International Association for the Astronomical Arts  
( <http://www.novaspace.com/AAA/Manifesto.html> )

Ken Fair, Jr. *Storm's Over*. ©1996. Digitally created using NASA's Mars Digital Elevation Maps. Gusev Crater area. View: E 97.5°. Camera position: 17.367°S & 190.029°W. ( <http://www.electrolive.com/artpages11/marsdata.html> )

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KEN FAIR, JR.

I appreciate this opportunity to share with you one of my passions—the journey through “What if...” with its infinite possibilities. This being my first contact with most of you, I should introduce myself. The reality: artist, business owner, owned by family and friends, and passionately drawn to the keyboard in a seemingly endless expedition of discovery. Fortunately, I have been able to keep hidden any vestiges of senility and almost always discover something new each day. (Although, it could be argued that all things are constantly new as senility takes hold.) Alternate reality: [www.electricolive.com/myspacealt.html](http://www.electricolive.com/myspacealt.html) .

Something new as of two evenings ago:

...And if not for its sake, why would I go  
Out into the night alone and stare deliberately  
Straight up into 15 billion years ago and more?...<sup>1</sup>

I have been told, among other things, that I am an information-gatherer. Maps, essays, data, histories, archives, journals, and other such sources, act as gravitational wells to me. As their attraction is strong I can't help but be convinced, rightly or wrongly, that when I play through the information, others will be as enthusiastic as I. In this newsletter you will find my and others' thoughts on Space Art, and the creative arts and collaboration. Oh, and a brief touch of Chet Raymo's *The Soul of the Night*... If you love the music of words, his are symphonic perfection.

“Prelude to a Collaboration:

Picture a boy excitedly pedaling his 1958 J. C. Higgins to the county library on a dry southwestern Kansas summer afternoon. Amid thoughts of *Cantrell's Drugstore* (a magazine rack, a small model kit section, and a cherry coke he'll treat himself to on the way home) and his hoping the wing he attached before he left will set properly this time, is his barely contained excitement as he wonders what new books he'll find this trip. He does not yet think in terms of new worlds opening up to him—the books are just one of many ways he will explore the day.

Now fast-forward almost forty years. Outside a winter's evening is pushing insistently against his studio. Inside beneath the monitor's cast glow, his keyboard has taken on a life of its own once again. In the fall he'd read a book which so captured him that what followed the next few months could best be described as obsessive compulsive behavior. He knew what he had read was important and needed to be more fully explored by him and any he could convince to help. The “What ifs...” of his 1950s and 60s could now take form. They can BE. On that icy winter evening the question had become, 'Now what? The internet? E mail? Contacts? Like-minds? What if we could somehow...' ”<sup>2</sup>

<sup>1</sup>Pattiann Rogers. ©1994. *On the Existence of the Soul*. Firekeeper. Milkweed Editions.

<sup>2</sup>Ken Fair, Jr. ©1997. Prepress manuscript. *You Never Forget Your First Spaceship*. MarsWest Publishing.

## Misinformation Wants to be Free!

WEDNESDAY, JULY 9, 7:30 PM  
MCBEAN THEATER, EXPLORATORIUM,  
3601 LYON ST., SAN FRANCISCO

A humorous treatment of a puzzling subject: When everyone's opinion is displayed, when rumor and fact are on an almost equal footing, what is believable anymore?

*Tribulation 99*, film by Charles Baldwin. What do we fear most? Pestilence? Aliens from space? The CIA is on the job!

Joel and Charlie from the Bad Studies Group, a study group sharing an understanding of politics, media and everyday life. Joel is also in the Crystal Methodists, who stage pranks like billboard alteration (more truth in advertising).

The evening will conclude with a survey of weird websites. The forum is free, open to the public and wheelchair accessible.

### ORGANIZING AN YLEM EXHIBITION

If you organize a show with several Ylem artists where

- the art is related to either technology or science
- is presented and promoted in a professional manner

Ylem can help you by sending you information about Ylem to go in your publicity packets. If you are in the San Francisco Bay Area, it can share:

- an up-to-date list of galleries
- an up-to-date media list
- printers who do postcard invitations at a good price.

Contact:

Trudy Myrrh Reagan, 967 Moreno, Palo Alto, CA 94303  
415 856-9593 or [trudymyrrh@aol.com](mailto:trudymyrrh@aol.com)

### LISTING YOUR EVENTS

Please send notices of your events to **both** the Ylem Newsletter and Ylem's web site. Because the newsletter appears every other month, listings falling between issues can still be seen in time on Ylem's "Art on the Edge" web site. See back cover for details.

An art and mathematics conference organized by **Nathaniel Friedman** will take place at New York State University, Albany in June.... **JoAnn Gillerman** and Rob Terry have created *The Sun Drops its Torch*, to be featured at CyberWorld, an all-summer exhibition of interactive computer art in Montreal. Gillerman is currently working on *Listen Up*, an educational CD-ROM and Web project on environmental racism, for Earth Island Institute and Urban Habitat... At SIGGRAPH 97 in Los Angeles, look for the art exhibit organized by a committee headed by **Lynn Pocock** and featuring **Diane Fenster's** work. Also, **Eduardo Kac** and **Ken Goldberg** appear on a panel titled "Interfacing Reality: Exploring Emerging Trends between Humans and Machines"... **Mary Stieglitz** is now is Chair of the Art and Design Department at Iowa State University, and **Eduardo Kac** is back teaching in the Art and Technology Department at the Art School of the Art Institute of Chicago... **Barbara Lee** received the first *Artist-In-Residence* position offered from Digital Equipment Corporation... **Paul Hartal**, a Canadian member, will give a paper in August at the Conference on Estrangement in Oxford, UK on "The Interplay between Assumed and Authentic Identity." He is author of the novel, *The Kidnapping of the Painter Miro* on the same theme... Solo Shows: **Bruce Beasley**, at Purdue University Galleries in April... **Corinne Whitaker** at Carl Cherry Center, Carmel, CA. (One of her works was also chosen for the Mayor's Choice exhibit in Carmel)... Australian member **Paul Brown** in Brisbane, Australia, as part of Emedia New Media Arts Festival. See Paul's work on his web site, [www.msstate.edu/~pgb2/home.html](http://www.msstate.edu/~pgb2/home.html)... Group shows: **Eleanor Kent**, in "Similar Differences" in San Francisco in May...

THANKS TO ALL WHO  
MADE OUR RECENT FUND-RAISING DRIVE A SUCCESS!

HENRY DAKIN  
FRANK DIETRICH AND ZSUZSA MOLNAR  
GRANT ELLIOTT  
ROGER FERRAGALLO  
HELEN GOLDEN  
KENNAN AND DORIS HERRICK  
STAN ISAACS  
JUDITH KERMAN  
HELEN KING - MATCHING GRANT DONOR  
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SONYA RAPOPORT  
CARLO SEQUIN  
MARY TEETOR  
JOAN TRUCKENBROD



# Of Space Art and Creative Arts Collaboration: t h e A b i l i t y t o E f f e c t C h a n g e

by Ken Fair, Jr.

Space Art—the art form that has inspired many and been much underrated by many. The hope and vision that Space Art exhibits is immense. The universe is the Space Artist's model—unashamedly naked—chaste and beautiful. The Space Artist's studio is a room with an unlimited view. For if it can not actually be seen physically, it can be imagined, and if it can be imagined, it can be interpreted with paint or pixel to the delight of its creator and the wonder of its audience.

Whether this art form conceptually reflects a journey through a galaxy pulsing and swirling through time or poignantly portrays a young daughter being prepared by her father to go out and play in the snow on a distant planet, the message is clear. We are on Earth for now, but we will not be confined to Earth forever. We will meet the universe on its terms and be considerably enriched by the meeting.

From the former Soviet Union's and America's first tentative yet enthralling steps in the 1950s, through Armstrong's imagination-capturing first footprint on the moon in 1969, to the 1970s and the present with our machines on Mars and orbiting Mother Earth, the vision of artists and pilots, poets and scientists, engineers and authors, of humanity becoming a space-faring people began to be realized. As the twenty-first-century nears, we are again tentatively exploring the possibilities, with NASA's Surveyor and Pathfinder, of humankind stepping out to embrace new frontiers. All of this due in no small part to Space Artists.

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"One of the defining achievements of the twentieth century was the birth of the space age... The space age was possible because, for centuries, the cultural imagination was fed by artists, writers and musicians who dreamed of

human activities in space. Now, with the end of the Cold War, the role of artists and writers is again crucial in defining our future vision of space—and will once again be instrumental in incorporating the facts and discoveries of the space age into the cultural imagination..."<sup>1</sup>

## Ability to Effect Communication

Much has been written about the internet's global contact capabilities. It is apparent that we have at our fingertips the means to not only reach others inexpensively and quickly, but to, within a few minutes or hours, gather together people of like mind to collaborate on the many and widely varying agendas in evidence today. Internet telecommunications is here to stay. It will evolve and can be used to great purpose. This fact is one I find quite invigorating and full of mind-staggering potential.

## Anatomy of a Collaboration

In January of this year a seed was cast globally via e mail—a call for a collaborative project to the creative arts community.<sup>2</sup> Within its first few days on the electronic currents, the message germinated and contact after contact after contact nurtured it along—a little water here ["You sound about as nuts as I am. :^)... Are you familiar with... contact her and let her know I suggested you do so."] some sunlight there ["I look forward to discussing things with you... I have passed along your letter to... have you talked to...?"]—its tendrils spread—touching widely varying shores and pathways.

The message was simple; the creative arts community could work together in a worldwide collaborative effort. We could initiate and assist in changing the

(continued on next page)

*First Air with Sunset, Hellas  
Planitia.* ©1997. Ken Fair, Jr.

Digitally created using  
NASA's Mars Digital  
Elevation Maps.

[www.marswest.org/FirstAir.html](http://www.marswest.org/FirstAir.html)



<sup>1</sup>Roger Malina. *Statement from Roger Malina.* <http://www-mitpress.mit.edu/Leonardo/san/spaceartproject.html>

<sup>2</sup><http://www.marswest.org/marscollaborationcall.html>



course humanity chooses. There is great hope for our future—an amazing tomorrow is ahead if we just grasp the moment.

The creative arts ability to speak through its paintings and poetry, film and essays, theatre and novels, music and animations, graphics design and sculpture, photography and drawings, multimedia and short stories, is extremely powerful.

This voice is a strong, energizing, and vibrant force that, once loosed, has a life of its own, seeking out nook and hall, screen and page, family room and board room, with results that are, at times obvious. But more often than not it is subtly carried in the subconscious of the world, influencing, whenever and wherever, the choices that are being made.

Our aspirations, our dreams, our "what ifs..." can make an immense difference in the course chosen. Not because we have all of the answers, but because when possibilities are discovered, we can vividly render them manifest—touching many with "what if..." tangibility.

The creative arts community's ability to give others a glimpse—no, a full vision of the possibilities is of paramount import—whether the discovery is a need for a local shelter to nourish and protect, or an urgent national need to return to "...for the people, by the people...", or a humanitarian need to assist a war-ravaged people—or a tomorrow-altering global need to take a major next step and not only reach for the stars but to hold them firmly in our grasp.

This next step is where Space Art comes into its own. For the irrevocable fact is, without the vision of the Space Artist we cannot come close to comprehending the promise that "out there" holds for humanity. The Space Artist enlarges our meager frame of reference to encompass something much, much more. In so doing s/he gives us the capability to add a much needed humanizing aspect to our understanding of exploring space—the people factor.

In January, when the call for collaboration was issued, what response to expect was an unknown. But, in retrospect, because of the innumerable seeds planted by innumerable artists, authors, and scientists over the previous decades and centuries, the call was answered almost immediately by a wide variety of people from around the world. The *MarsWest Collaborative Project Organization* was now set to grow and encourage worldwide support for space exploration, and in particular, manned exploration of Mars. Within a few weeks a web site was on-line. The site, *West to Mars*<sup>1</sup>, from its genesis, focused on the people factor—the romance of space exploration while

staying firmly grounded in the reality of space exploration.

The worldwide internet community's response has been more than expected—incredibly more. From February 16, 1997, when *West to Mars* first went on-line, through May 18, 1997 there have been 151,135 accesses on the site. Needless to say this has been very gratifying to see—such an immediate and positive effect. Many labors-of-love have been contributed and are now on-site. Numerous awards for innovation and content have been received. Additionally, the *MarsWest Collaborative Project Organization* has been asked by the *International Astronautical Federation* to present a paper detailing the project to their 48th Congress this fall in Turin, Italy—presenting a valuable opportunity to give the project a real-world voice.

*West to Mars* uses the diverse talents of a global community in its effort to reach the hearts and minds of others—the participants inherently diverse interests and cultures reaching out to the inhabitants of planet Earth to join us in the great adventure. The *West to Mars* web site consists of a wide variety

of pages creatively showcasing art, poetry, and topical, and we hope noteworthy, essays. A contributors and supporting sites page lists all participants with links to their sites. Additionally, a resources section highlights valuable educational and informational web sites and books available to the world community.

4

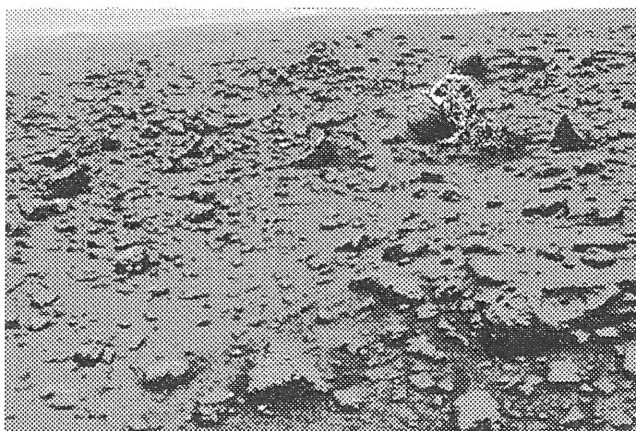
Although the current *West to Mars* web site is an excellent start in attaining the organization's objective of global response and participation, additional measures are required on-line. We are

looking into building a broader communications network that will unite multicultural thoughts and experiences by creating multi-language versions of the *West to Mars* web site. We are actively recruiting new ideas and expertise in the creation of additional web pages geared to children in order to create an entertaining interactive multimedia educational experience.

Even more importantly, to reach the collaborative project's full potential, new concerted measures are being implemented outside of the on-line community.

We are now working toward moving *West to Mars* from its 'on-line only' status by exploring partnerships with educational and major industry institutions in an effort to stimulate support while educating our youth and our young at heart with products and promotions that are imaginatively fun and give our youth hands-on study of the arts, sciences, mathematics and technology.

*West to Mars* welcomes YOUR participation.



Arthur Woods. *Mars Seed*. ©1997. Digital. <http://www.marswest.org/marsseed.html>

<sup>1</sup><http://www.marswest.org/>

# A Brief History of Space Art<sup>1</sup>

by Arthur Woods<sup>2</sup>

## Art Projects in Space

Space exploration is the greatest voyage of discovery ever undertaken and as artists have traditionally accompanied explorers on many of the great voyages of scientific and geographic discovery, artists have also been at the forefront of space exploration. Since the first use of the telescope in 1610, before the invention of the camera, astronomers recorded what they observed by making drawings (Hardy, 1989). The first science fiction novel written by a scientist was by the German astronomer Johannes Kepler in 1615. Called *Somnium*—a tale about a voyage to the Moon. Kepler is aware that the Earth's atmosphere does not extend indefinitely outward. (Miller, 1989). In 1870 Emile Bayard illustrated Jules Verne's *Around the Moon* a sequel to his classic *From the Earth to the Moon* (1865) with woodcut illustrations.

At about the same time James Nasmyth's illustrations were the first space landscapes to appear in a non-fiction book: *The Moon*. (Hardy, 1989). Before the invention of Astronautics, even before the flight of the first airplane, both literature and art began exploring space and have progressed ever since.

Art is also a traditional and powerful means of communication, and art about space has not only been an integral part of space exploration since its beginnings, it has played a vital role to its development as well. As stated in the 1993 Call for Papers for the 44th *International Astronautical Federation Congress*:

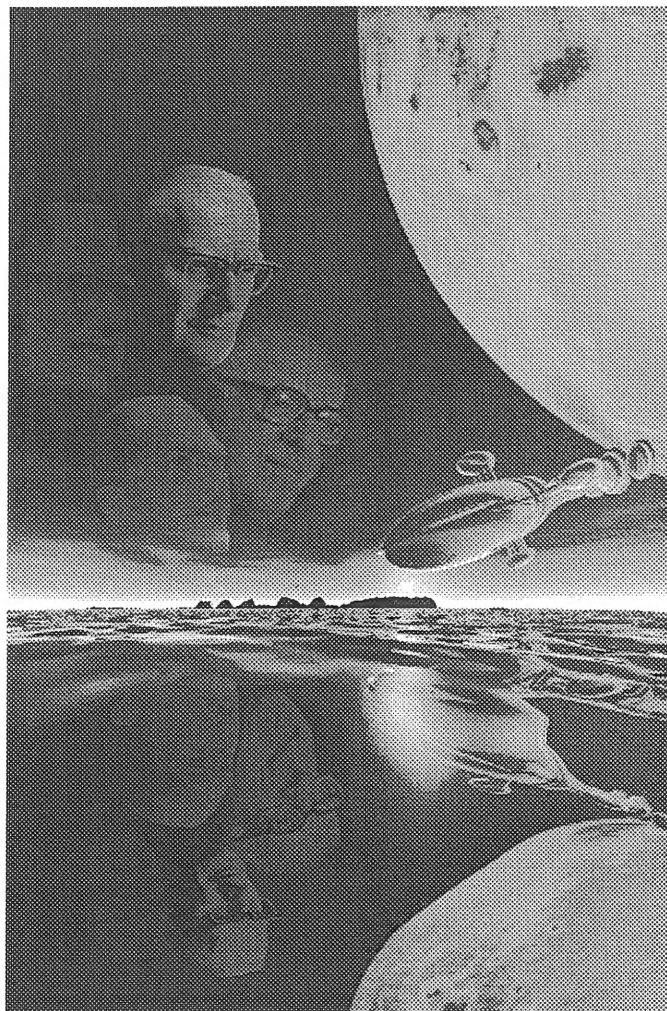
"Visual artists and writers have created fictional images and scenarios on the development of space. Such visions are the primary way that the general public is introduced to ideas about space exploration. Artists and writers, in fact, lay the foundation which makes future space activities understandable by the general public and thus secures the necessary political support." (anon., 1992)

If the above words were in fact widely acknowledged throughout the space community, there would be no discussion about the importance of including art in today's space programs—especially during a time of declining public support for space activities worldwide. Whereas, artists and writers of the past created the visions upon which the present space program has been built, today many artists serve the space community by helping to visualize the future developments and give form to developing technologies. Others, inspired by the beauty and wonder of the cosmos and by the implications of humankind leaving its ancestral home planet, are creating new art forms and techniques appropriate to human expansion in this new environment. Therefore, having art included in humankind's activities in space is a logical and timely development.

## The Definition of Space Art

The term 'Space Art' has many connotations and definitions even among the practitioners of this genre in the space community. Roger F. Malina (1989, 1990), as editor of *Leonardo: The Journal of Art, Science and Technology* has tracked its development over years. He defines Space Art as: "Contemporary art which relies on space activity for its implementation" and lists seven broad categories:

1. Fine art which exploits sensory experiences generated through space exploration. New landscapes become accessible through space photography and film. Space illustrators anticipated some of these and make use of the photographic record from space exploration.
2. Art which expresses the new psychological and philosophical conceptions developed through the exploration of space. The primary example of this is the concept of the Earth as a whole system, a concept made concrete by the first views of the whole Earth from space.
3. Art in space, viewed from Earth.



Ken Fair, Jr. *Were It Not for Them...* ©1997. Digital. <http://www.marswest.org/lisa7.html>

3. Art in space, viewed from Earth.

(continued on page 10)

<sup>1</sup>Excerpt from Arthur Woods' presentation—*The Role of Art in Communicating the Importance of Space Activities*—given at the *International Astronautical Federation's* 45th Congress in Jerusalem.

<sup>2</sup>American born Swiss artist—creator, organizer and manager of *Ars ad Astra: The 1st Art Exhibition in Earth Orbit* on the Mir space station; Founder and President of *OURS Foundation*.

Events

Some calendar items are reprinted from Art Calendar (the monthly marketing and career management journal for artists, PO Box 199, Upper Fairmount, MD 21867. Subscriptions, \$32 p. year), Wired, Multimedia Reporter (from North Bay Multimedia Assn.), Artweek, Video Networks (from BAVC), Leonardo Electronic Almanac, Artswire ([www.artswire.org](http://www.artswire.org)), Fusion (Art and Technology Society) and FineArts Forum Online ([paul\\_brown@siggraph.org](mailto:paul_brown@siggraph.org)). We cannot verify all information sent to us. Readers, inform us of incorrect information, please.

All events and exhibits are in the San Francisco Bay Area except where noted.

We want your announcements! To assure they appear in the next newsletter, send 6 weeks before publication date. Also send notices to the Ylem website where they can appear on shorter notice. (Addresses on back cover.)

Ylem Forums are held the second Wednesday of January, March, May, July, September and November (odd-numbered months) at the Exploratorium, 7:30 pm.

JULY 5-6, 9 PM

**BRAIN WASH MOVIES FESTIVAL**

Weirdness strikes! at an unlikely parking lot in San Francisco. Odd, odd movies will be shown at nightfall. See 20 new films (animation, experimental, a Burning Man documentary) plus a live band all for only \$5!

Somar Gallery, 934 Brannan St., San Francisco; contact: **Dave, 415-273-1545; squidink@hooked.net**

SEPTEMBER 22-27

**ISEA97**

(CHICAGO, IL)

The Eighth International Symposium of Electronic Arts is being held at The School of the Art Institute of Chicago. Students and early registrants will receive substantial discounts.

See the ISEA97 web site or contact: **Joelle Rabion, School of the Art Institute of Chicago, 112 S. Michigan Avenue, 4th Floor, Chicago, IL 60603; 312-345-3571; isea97@artic.edu; http://www.artic.edu/~isea97**

Exhibits

JULY 4-20

**DIGITAL ATELIER**

(WASHINGTON, DC)

The National Museum of American Art, Smithsonian Institution, will house a digital art studio. Artists include Ylem members Helen Golden and Dorothy Simpson Krause. Digital printmakers will be on hand to demonstrate techniques in creating art using the latest computer technology. Visitors can observe and interact with the artists and create their own prints. The Digital Atelier will be open during regular museum hours from 10 am-5:30 pm.

National Museum of American Art, Smithsonian Institution, Washington, DC 20560; 202-633-8998

THROUGH JULY 13

**THE MIRAGE CITY- ANOTHER UTOPIA**

(TOKYO, JAPAN)

An exhibition of an experimental model for conceptualization and realization of a Utopian city for the 21st century, conceived by Arata Isozaki. Are cities possible without a master plan? Visit the InterCommunication Center's home page,

<http://www.ntticc.or.jp>, or visit the real thing at **Nippon Telegraph & Telephone Corporation, Project InterCommunication Center, Tokyo Opera City Tower 4F, 3-20-2 NishShinjuku, Shinjuku-ku, Tokyo 163-14, Japan; tel +81-3-5353-0800; fax -0900**

AUGUST 3-8

**SIGGRAPH '97**

(LOS ANGELES, CA)

Ylem members **Diane Fenster** and **Roman Verostko** are among 13 featured artists in this year's *Art & Design* exhibit at SIGGRAPH. Fenster will be exhibiting 8 pieces from her *Hide and Seek* digital photographic series. The exhibit will also travel to New York City. SIGGRAPH's 24th International Conference on Computer Graphics and Computer Techniques at the Los Angeles Convention Center provides an opportunity to explore the latest products and technologies. For info, contact: **312-321-6830; fax -6876; siggraph97@siggraph.org; http://www.siggraph.org/s97/**

THROUGH SEPTEMBER 5 **CYBERWORLD**

(MONTREAL, CANADA)

Ylem member **JoAnn Gillerman**, in collaboration with Rob Terry, has produced *The Sun Drops Its Torch* interactive installation at the Cite des Arts et des Nouvelles Technologies de Montreal. This multi-user installation for color monitors, floor sensors, computer and video laserdisc is driven by its audience. Participants **play** the environment as they move around the space, stepping on the floor sensors that control visuals and sounds. The visuals, shot in Hawaii by the artists, are of a solar eclipse and an active volcanic flow occurring simultaneously. For info: **JoAnn Gillerman, 950 61st St., Oakland, CA 94608; viper@metron.com; http://www.ViperVertex.com**



SEPTEMBER 8-13

## FLESHFACTOR

(LINZ, AUSTRIA)

Prix Ars Electronica 97 presents its annual international computer arts festival and competition. This year's theme is the human, an investigation of the individual in a networked artificial system. Featured are computer animation and music, and interactive art. For info:

Thomas Riha, Prix Ars Electronica, Europaplatz 3, A-4010 Linz/Austria; fax + + 43 (0) 732-6900-270 or 200; net.info@prixars.orf.at

### Opportunities

DEADLINE AUGUST 19  
SCAN '97

(PHILADELPHIA, PA)

Call for participation in symposium of computer technology and its unique relationship to the visual arts, music, dance and performance arts, held at Franklin Institute Science Museum, Philadelphia, PA Nov. 7-10. Make a proposal for a SCAN presentation and share your visions with SCAN attendees. We welcome the Fringe!

Misako Scott, Small Computers in the Arts Network, 209 Upland Rd, Merion Station, PA 19066-1821; 610-664-3417; scan@netaxs.com; http://www.scanarts.com

### ARTIST'S FILE

(NEW YORK, NY)

Computerized slide registry + 3700 artists. Viewed by curators, dealers, art consultants, collectors, other artists, program staff.

Updated annually.

Forms:

Denise Fasanello, Artists

Space, 38 Greene St., 3rd Fl. NY, NY 10013; 212-226-3970

### G2 INSTITUTE

The G2 Institute was formed to explore the potential of the collective, archetypal imagination to create syntheses between new science, art and life - to activate a leap to the new century. The institute plans to conduct research, lectures and salons and provide space for exhibitions / demonstrations by visiting artists and scholars.

Goodman2 Institute, 1695 18th St., S.F., CA 94170-2376; 415-331-2376; fax -2076; msenger@well.com; http://www.dbarchitect.com/~db/g2

### MULTIMEDIA ARTISTS

The creator of the CD-ROM Technophobia is currently researching her next project and would like to hear from artists creating surprising and thought-provoking multimedia works. Of particular interest are innovative uses of the interactive possibilities of the medium. The exhibitions will exist on CD-ROM and the Web. All graphics, sound, text and movies should be presented in a Macintosh compatible format. Contact:

Dooley Le Cappellaine, Prince Street Station, PO BOX 528, NY NY 10012-9998; Tel/Fax: (212) 966 3046; dooley@thing.net; http://www.thing.net/~dooley

CONTACT BY JUNE 18

### OUTCOMES:

1) Produce Exhibit for Leonardo/ISAST's 30th Anniversary Celebration to be shown in the lobby of the New Media Institute, San Francisco in September on the opening night of the NMI's Lecture Series.

2) Define new ways of qualifying Leonardo/ISAST's New Horizons Prize winners, artists who have increased the vocabulary of artmaking.

### OBJECTIVE:

Produce an exhibit of the art presented and discussed in the journal, Leonardo (30 years) and the Ylem Newsletter (16 years) profiling the evolution of the contemporary artist over those time periods.

**Prefer exhibits based on critical reviews of one or more themes like:**

- do artists drive technology or does technology drive artists?

- what are the qualities, background of artists, who incorporate social responsibility in their artworks?

- have we supported diverse global cultures or are we creating a global tech culture which limits the vitality and creativity of diverse peoples? What are the facts, what are the drivers?

- have artists exhibited more freedom of expression in these recent 30 years? What have been the outcomes of their art? What are the facts, what are the drivers?

- ability of an artist to communicate a change in our relationship to nature and restraints on environmental sustainability

Teams on which one or more artists participate are actively sought.

Please contact for further information or to register your participation:  
Theo Ferguson,  
Theo.Ferguson@ncal.kaiperm.org, 510 548-7490.

### Needs & Offerings

#### DIGITAL DISSEMINATION

(WASHINGTON, DC)

The National Museum of American Art, Smithsonian Institution, the nation's first federal art collection, is one of the most active museums in electronically disseminating its images, texts and databases. For info contact: 202-357-2700; http://www.nmaa.si.edu

#### NEW JOURNAL

(NEW YORK, NY)

Nonlinear Dynamics, Psychology, and Life Sciences, a new journal from Human Sciences Press, applies chaos theory to human behavior and a variety of other disciplines. Sound intriguing? Subscription for 4 issues: institutional \$110; personal \$35. For free sample issue, contact: Human Sciences Press, 233 Spring St., NY, NY 10013-1578; 212-620-8000; http://www.plenum.com; info@plenum.com

#### NORTH BAY MULTIMEDIA ASSN.

(SAN RAFAEL)

Interested in a meeting ground where cool people from all parts of the media community exchange ideas, see new work, find business support and socialize in a productive atmos-

phere? Membership brings: a year's subscription to the Multimedia Reporter, which chronicles information and events in the Bay Area; discounts at meetings and events; networking opportunities.

Contact: Laurie Vermont, 415-721-1780 or NBMA, PO Box 150296, San Rafael, CA 94915

### **TECHNOPHOBIA**

A CD-ROM of original multimedia art presented as an interactive exhibition. The 12 featured artists play with our fears regarding technology and thus raise questions about their own medium.

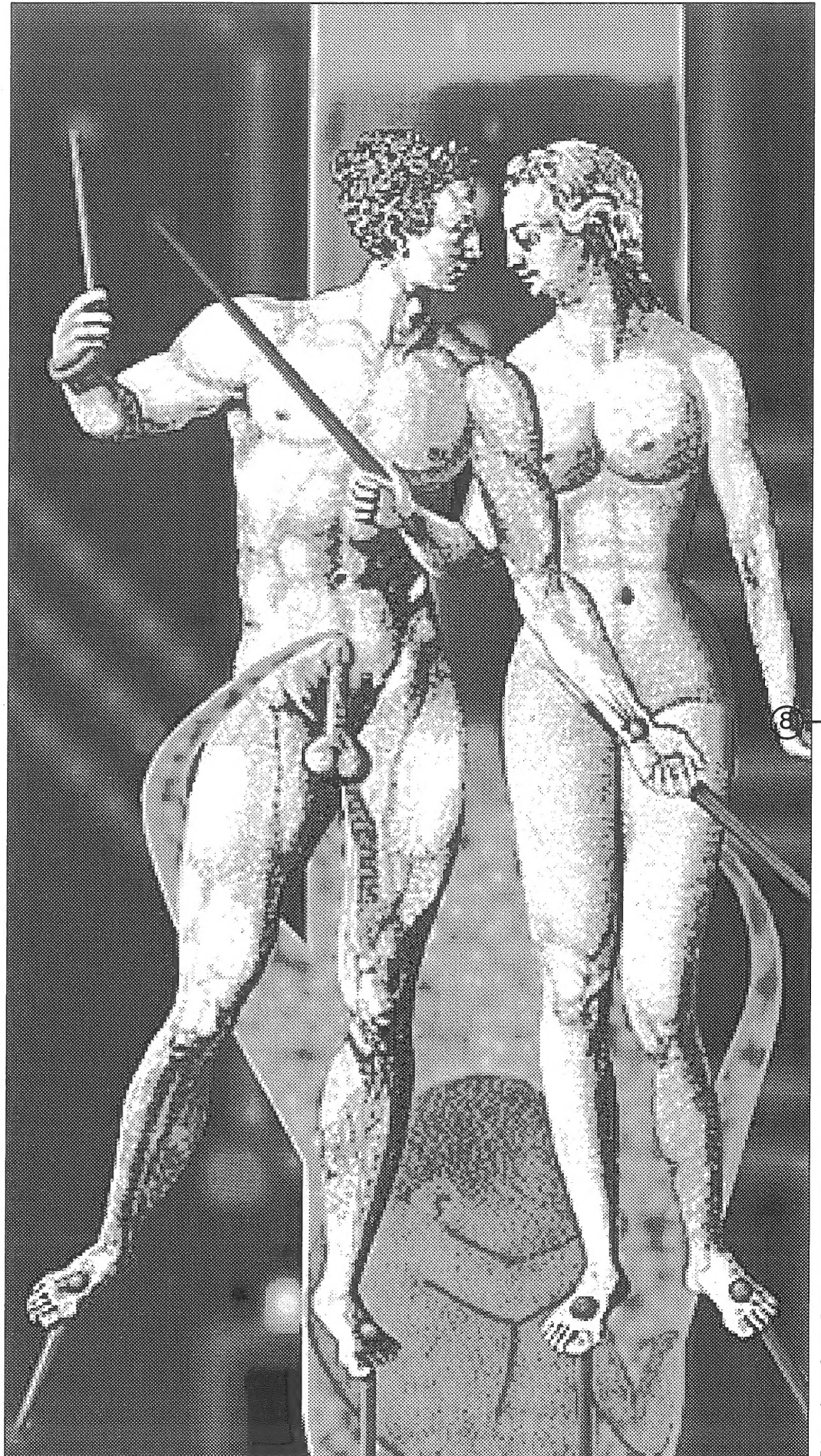
The works demythologize our technophobia by making it concrete. In addition to the multimedia artworks it is also possible to access a studio visit with each artist. Contact: Dooley Le Cappellaine, Prince Street Station, PO Box 528, NY NY 10012-9998; 212-966-3046; dooley@thing.net; <http://www.thing.net/~dooley>

### **THE ALIEN IQ TEST**

(NEW YORK, NY)

This new book by Ylem member Clifford Pickover is designed to appeal to UFO buffs, *X-File* fans or anyone who wants to enter new mental worlds. *The Alien IQ Test* stimulates our fascination with extraterrestrial life and puts our intelligence on the line in such areas as abstract reasoning, religion, morality, art, music, math and science. Each chapter includes apt quotations and original illustrations to accompany Pickover's brain ticklers.

Basic Books, 10 E. 53rd St., NY, NY 10022-5299; 212-207-7057; fax -7203





# THE YLEM ANNUAL DIRECTORY

The Artists Using Science and Technology is a handsomely produced publication describing nearly 250 artists' fascinating specialties. It is abundantly illustrated. Collectors, curators, art critics, educators and libraries all use it as a resource. Production is paid for with picture fees. One year membership fee includes a copy of the edition of the Directory in which you are listed.

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4. Art on Earth, viewed from space.
5. Art in space, viewed in space.
6. The applied arts such as space architecture, interior design and furniture design.
7. Fine art which takes advantage of new technologies and materials created through space activities. The most important of these make use of satellite systems to create simultaneous global artworks.

Malina goes on to point out that the work of some of the most important illustrators, i.e. Charles Bonestell, David Hardy, and Ludeck Pesek, not only anticipated some of the results of space exploration, but in some senses made space exploration possible by generating public interest and support and by helping scientists to plan their and illustrate their experiments

Space artist and astronomer William K. Hartmann (1990) cites four roles for space art:

1. Encouraging scientific exploration.
2. Recording historical evolution planetary exploration.
3. Promoting international cooperation.
4. Synthesizing information to stimulate new ideas about the Universe and our relationship to it.

Another definition of space art can be found on the WWW site of the I.A.A.A.<sup>1</sup>

#### What is Space Art?

Today, there are probably less than 1000 artists in the world who are dedicating their talents to some form of space art.

Furthermore, the appreciation of this genre of art in all of its manifestations by the main-

stream art community has been and still is very low. Like much of science fiction literature, space art is rarely considered to be 'serious' art, but rather anecdotal to main stream art. This situation has not been helped by the cinema, which, though immensely popular, with a few notable exceptions, has portrayed space as an arena for adventure fantasies with a blatant disregard for the fundamental physical laws of nature, most notably that of distance and gravity.

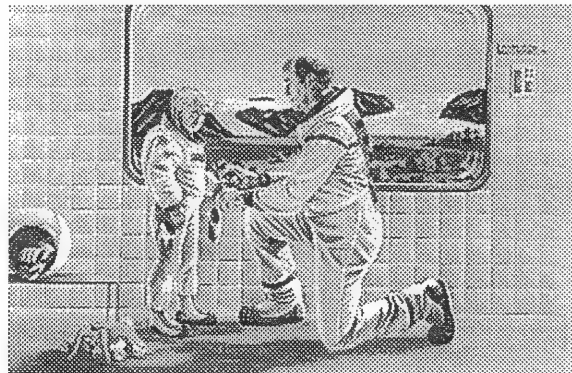
As to the ultimate relevance of space art to space activities Malina (1989) states:

"The creation of contemporary art is inextricably tied to the process of creating human civilization. Within this perspective, artmaking will occur as a part of space exploration, and in fact artmaking must be encouraged in space as one of the ways without which, in the long run, human use of space will be incomplete and unsuccessful."

#### Astronautical Art

Yet, beyond painting and literature only a handful of space artworks have ever officially been realized either in space or through the utilization of space technology. These include:

1. 1969: *The Moon Museum*—a small ceramic tile carried on Apollo 12 on which American artists Robert Rauschenberg drew a straight line; Andy Warhol drew a penis; Claus Oldenberg drew the image of Mickey Mouse; and John Chamberlain, Forrest Myers and David Novros all drew geometric designs. (Hoban, 1985)
2. 1971: *The Fallen Astronaut*—a small figurine by Dutch Artist Paul Van Hoeydonk was sent and left on the Moon on Apollo 15 as a part of an astronaut's personal effects. (Hoban, 1985)
3. 1984: Joseph McShane's *Get Away Special (GAS) (G-308)* which contained a system of spheres used as a materials coating experiment, originally conceived of and viewed as artworks upon return to Earth. (NASA, 1994)
4. 1986: Howard Wishnow's *GAS 481 Verticat Horizons*—technically not really an artwork but rather samples of painted linen and other artistic materials in order to evaluate the effects of spaceflight on such materials. (NASA, 1994)
5. 1989 Lowry Burgess's 'Boundless Cubic Lunar Aperture' flew on the Space Shuttle as a self contained 'non-scientific payload'. This conceptual artwork included holograms and cubes made from all of the elements known to science and water samples from all the world's rivers. The spaceflight was part of the realization of his 'Quiet Axis' artwork. (Malina, 1990)



Mari Lynn Flynn. ... and don't slam the airlock!. ©1989. Acrylics.  
<http://www.marswest.org/DontSlamMariLynn.html>

6. 1993: Arthur Woods' 'Cosmic Dancer Sculpture'. Launched to the Mir space station, this artwork was designed to investigate both the properties of sculpture in weightlessness and the advantages of integrating art into the living and working environment of the cosmonauts. A video and photographic record were made and returned to Earth

for viewing. As of this writing the sculpture is still on board the Mir station. (Woods, 1994)

7. 1995: *Ars Ad Astra: The 1st Art Exhibition in Earth Orbit* was organized by Arthur Woods and The *OURS Foundation* in cooperation with the *European Space Agency* during their *EUROMIR '95* mission. 20 original artworks and a laptop computer with 81 digitized art works accompanied German cosmonaut Thomas Reiter on his 6 month mission.

Also included with this list of 'flown art' is Russian artist/cosmonaut Alexei Leonov (Soviet commander of Apollo-Soyuz) who carried colored pencils and paper with him to make the first eyewitness sketches of the Earth from space. His artist friend, Andrei Sokolov, probably the most noted space art painter in Russia, has had his painting(s) transported to the Mir station and arranged similar opportunities for the American and Belgian artists William K. Hartmann and Eric Victor and most likely for a few other Russian painters. A painting by artist Pamela Lee and Alexei Leonov were reported to have been carried on the U. S. Space Shuttle. (Roix, 1992)

It is reported that the various space agencies sometimes take along art works as memorabilia objects—although this is not publicized.

The West cigarette company commissioned German artist Andora to paint the outside surface of a Russian Proton rocket with examples of his art and an advertisement for the cigarette company. This vehicle was launched in 1992. (Bunte, 1992)

### Electronic Space Art Works

Several electronic space art works have been realized. These include:

1. In 1987, French artist Jean-Marc Philippe's project which used a radio telescope to beam thousands of messages into space that were collected on the French Minitel system. (Malina, 1990)
2. In 1988, Israeli artist Ezra Orion created a 'light sculpture' by aiming a laser at selected points in the milky way. (Malina, 1990)
3. In 1992, Austrian artist Richard Kriesche transmitted an interactive video performance called ARTSAT to the cosmonaut crew on board the Mir who return the altered signals after one orbit which then interacted with various devices. This was carried out in the context of the AustroMir mission. (Kriesche, 1993)

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### Art Seen From Space

To date, only two artists have succeeded in producing artworks on Earth that were meant to be 'seen' in space.

In 1980, American Tom Van Sant's used a system of mirrors to create *Reflections from Earth*, and in 1986, *Desert Sun* which were recorded by a satellite passing overhead. (Malina, 1990)

French artist Pierre Comte used large sheets of black plastic to create 'Signature Terre' which was photographed by the SPOT remote sensing satellite in 1989 (Roix, 1992).

In August of 1994, *Spacearc*, a digital archive of messages and artworks collected by the Rochester N.Y. University and originally planned for the *International Space Year (ISY)* was attached to a communications satellite launched on an Atlas rocket.

While each of the above mentioned projects are interesting in their own way, the

impact of these art works on the global community up until now has been small. Though some of these artworks have received substantial press coverage, most of them have gone unnoticed outside of a small audience. But they do represent significant steps for the astronomical arts.

As the relevance of space to the future of humanity has yet to be widely appreciated by a large public, art in and about space may appear to have little meaning or impact for a terrestrial population.

### Mega-Space Art Projects

However there is a category of space art which has the potential to touch almost everyone on the planet—and because of its controversy, to stimulate a global discussion of *Why Space?* and consequently—The Space Option. This type of space art is referred to in Malina's third category: Art in space, viewed from Earth—typically large reflecting orbital sculptures or artificially induced aurora which could be potentially visible to much of the world's population. Their scale, cost and controversy would be a subject of discussion worldwide. Though often proposed, it is incredible that after more than thirty-five years of space activities, no such art-in-space projects have ever been concluded—especially as these would be powerful tools of communication (Bernasconi, 1992).

The main reasons for this situation can be found in the space community itself, especially among the astronomers, who have loudly protested such projects as interference in their (more important) work and from some space scientists who too quickly accused such artworks to be nothing more than space debris. Only a few

persons within the space community today would concede that art and artists have a valuable contribution to make at this very critical moment in the history of human space activities. I further believe that most space professionals would prefer that artists do their art somewhere else (preferably on Earth) and let the serious work of scientists and engineers in space remain unimpeded. Other limiting factors have been the high cost of realizing such art projects and the almost 'religious' priority given to the scientific investigation of space by the space agencies.

The first art-in-space concepts called spaceworks were proposed by Albert Notarbartolo (1975). While he recognized the controversial nature of such concepts, he hoped that support for the launching of the first spacework would be

(continued on next page)



Ken Fair, Jr. *Journey to Blue*. ©1994. Digital.  
<http://www.electricalive.com/artpages/journeys20b.html>

obtained as a cooperative international venture under the auspices of the *United Nations* to symbolize the solidarity of mankind.

Since then, the few art-in-space proposals that have been publicized and developed even slightly have indeed sparked enormous controversy and debate, which is perhaps a signal of their communications potential. Most of these have also had a high symbolic content. Some proposals have been either technically unrealistic and/or financially non-feasible. The most realistic proposals and those which have been technically developed to some degree are:

1. 1982, Joe Davis: *Ruby Falls*—an electronically induced artificial aurora. Indefinitely postponed after the Challenger mishap. (Malina. 1989)
2. 1982, Richard Clar: *Spaceflight Dolphin*—a two meter in length wire frame sculpture in the shape of a dolphin designed to be deployed from a GAS canister during a Space Shuttle flight. Though not visible to viewers on Earth, a radio transmitter would have sent dolphin sounds back to museums on Earth. Clar's project was complicated by NASA's upgrading the deployable GAS projects to their more expensive Hitchhiker program. However, Spaceflight Dolphin is still under development and may find its way into space via a Russian launch. (Clar. 1993).
3. 1984, Pierre Comte: *Arsat*—a solar sail type sculpture which would create a brilliant star that would circle the planet. The second choice in the Eiffel Tower competition. Comte has proposed several size variations of *Arsat*. (Malina, 1989)
4. 1988, James Pridgeon: *The 1990 Goodwill Games Constellation*—an orbital sculpture consisting of two inflatable Mylarized balloons 30 m in diameter attached to a Kevlar tether several kilometers in length. This would create two stars symbolizing East and West, with a brightness equivalent to that of Venus. Pridgeon has discussed the project with both the U.S. and the Russian space officials. In 1983, Pridgeon submitted a proposal to NASA for art to be included on the space station. (Pridgeon, 1990)
5. 1986, Arthur Woods: (*OURS Foundation*) *OURS 2000—the Orbiting Unification Ring Satellite* project—designed to celebrate the new millennium, this one kilometer in diameter inflatable toroidal sculpture would be visible as a circle in the sky approximately one-eighth the size of the Moon. After some time in orbit the sculpture would deploy a solar sail to leave orbit and fly away from sight. (Woods, 1987)
6. 1986, *Group Spirale* (Alain Coquet, Jerome Gerber, Jean Jacques Leonard, Alain Robert, Jean Pierre Pommereau): *L'anneau Lumiere*—a 24 kilometer in diameter ring of 100 six meter in diameter reflecting balloons would have been visible as a circle in the sky larger than the Moon. The winning project to celebrate the 100th anniversary of the Eiffel Tower stimulated the most protest from the astronomical community and was eventually considered technically non-feasible. (Malina. 1989)



Art in Space: Arthur Woods' *Cosmic Dancer* sculpture on the Mir space station. Arthur Woods / *OURS Foundation*. © 1993.

7. 1988, Arthur Woods: (*OURS Foundation*) *OUR-Space Peace Sculpture*—a six meter in diameter prototype of the *OURS 2000* was proposed for the ISY. A full size test model was constructed by *NPO Energia* and a 'Letter of Intent' for the launch was signed with *Glavcosmos*, but in the wake of the dissolution of the *Soviet Union*, funding did not materialize in time for an ISY. Visible as a small light for an observer on Earth, the deployment was to be filmed by cosmonauts during a space walk and then relayed to Earth. (Woods and Bernasconi. 1989).

8. 1993, Arthur Woods: *Cosmic Dancer II*—a thirty meter inflatable reflective version of the *Cosmic Dancer* inside the Mir would be visible to skywatchers on Earth as an intermittently blinking light in the sky. Proposed for realization as a possible precursor to the *OURS 2000*. (Woods and Bernasconi. 1993)

Because of publicity about some of the above projects, scientists have persuaded the *International Astronomical Union*, the *International Academy of Astronautics* and the *American Astronomical Society* to pass resolutions to prohibit orbiting space sculptures as they would interfere with astronomical observations (Malina, 1990). Other scientists, justifiably concerned about the problem of space debris

which has been generated by thousands of military, scientific and commercial missions to space, make a pointed effort to warn about space debris from the few orbiting artworks that have been proposed but never realized.

'Monuments and works of art can be better enjoyed on the ground than in space' (Perek. 1990). *OMNI* magazine, a popular American periodical dedicated to the future and with a special interest in space, wrote eloquently about the potential of space art in 1985:

'Those chosen as the first space communicators may do more to enlarge our concept of the universe than have all of the bound artists of the past.' (Hoban, 1985)

Yet, in 1990, *OMNI* captioned a photo of the *OUR-Space Peace Sculpture* as: "A halo over Earth or just OUR junk in space." (Wohleber, 1990) and, in 1993, did not even mention the realization of the *Cosmic Dancer Sculpture*—the first sculpture to be integrated into a human environment beyond Earth.

Most recently, the United States Congress, has found the time amidst its busy schedule to pass legislation prohibiting advertising in space that would be visible to Earth without the aid of a telescope. (Space News. 15-28/08/94).

As the line between a sponsored artwork and pure advertising may be very fine. This action may become a serious obstacle to art-in-space in the future. But who knows? *Space Marketing*, a company located near Atlanta, Georgia proposed an orbital advertising banner in conjunction with the 1996 Olympics. Though they didn't succeed with this project, they were responsible for the inflatable Pepsi Cola can deployed during a space walk on the Mir station in 1996 and filmed for an advertisement.



## Galactic Silence Turned Up

"How are we to understand the silence of the universe? They say that certain meteorites, upon entering the Earth's atmosphere, disintegrate with noticeable sound, but beyond the Earth's skin of air the sky is silent. There are no voices in the burning bush of the Galaxy. The Milky Way flows across the dark shoals of the summer sky without an audible ripple... we hear nothing... they fall like feathers... there is no soundtrack..."

Let us listen. Let us connect the multimillion-dollar telescopes to our kitchen radios and convert the radiant energy of the stars into sound. What would we hear? The random crackle of the elements, the static of electrons fidgeting between energy levels in the atoms of stellar atmospheres. The buzz of hydrogen. The hiss and sputter of matter intent upon obeying the stochastic laws of quantum physics. Random, statistical, indifferent noise..."<sup>1</sup>

Melding art with science, the hypnotic music of Italian astrophysicist and musician Dr. Fiorella Terenzi<sup>2</sup> and the inspiring Space Jazz multimedia concerts of Brazilian composer and musician Maria Emilia<sup>3</sup> brings the universe within hearing distance.

Intrigued by the beauty and precision of the cosmos, Maria Emilia interprets into musical symbols the scientific data sent by NASA spacecraft.

Converting radio waves from galaxies into sound, Dr. Terenzi's *Music of the Galaxies* brings you the sounds of galaxy UGC 6697. Truly an off-world experience.

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Another composer-musician, William Ørbit<sup>4</sup>, transports you out among the stars. His *Strange Cargo Hinterland* raises strong emotional connections with "out there".

Roy's *Blade Runner* soliloquy comes alive, coursing through me as I am immersed in Ørbit's *Hinterland*.

"I have seen things you people wouldn't believe ...ships on fire off the shoulder of Orion. I watched C-beams glitter in the dark near the Tannhäuser gate..."

Partly because of an, evidently, inherent inclination on my part and partly because as Ørbit states, "I feel that I'm not in a territory that's been mapped out. ...I do sometimes feel that I have strayed into an uncharted area..."

## Mind Music

"I have often been surprised by the way people who do not know the constellations will instinctively and with ease pick out the Big Dipper. I have sometimes wondered if the pattern of those stars is genetically impressed upon the human brain, the way certain birds are born with the ability to recognize and follow the constellations on their migrations. Certainly no group of stars in northern skies has a longer or more prominent history. The Dipper is a repository of human brooding and human dreams. The Big Dipper... the Great Bear... has been known as a bear not only in the Western tradition, but also among the Indians of North America. It is difficult to recognize the figure of a bear in the patterns of the seven stars. Some chartmakers try to make a satisfactory outline of a bear by including nine or ten of the fainter surrounding stars. To me, this seems unlikely; the seven bright stars of the Dipper are far more prominent than the included others. The stars of the Dipper, like all stars, slowly

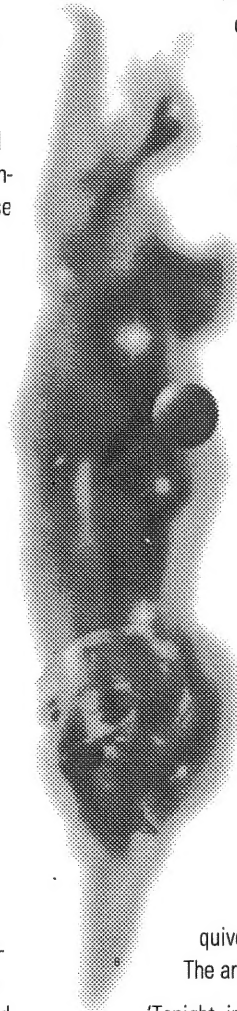
change their positions on the celestial sphere [...proper motion], and it has occurred to many people that the constellation may have become Ursa Major at a time when the pattern of the seven stars more closely resembled the figure of a bear than it does today. But it is not difficult to calculate from present proper motions the positions of the Dipper stars at any time in the past (I have done it myself for many different eras), and at no time within the span of human history does the constellation evoke—to my mind at least—the outline of a bear. Then again, there is the delightful alternative suggestion that Ursa Major received its name at a time in the past when bears more closely resembled dippers!

...Who would surrender the Big Dipper? Who would forgo that wagonload of dreams or chase the Great Bear to permanent lair? One of Thoreau's companions claimed that a man could get along without the stars, though he would be considerably reduced in his circumstances; they were, he said, a kind of bread and cheese that never failed. The stars are bread and cheese, bread and wine, talismans and covenants. What would poets do without the stars, stars "dropping thick as stones into the twiggy / Picket of trees"? In summer's midnight sun the Eskimos wait for weeks for the Great Bear and find that it has been there all along, hidden in white arctic light, padding in great lopsided circles about the zenith.

...Every poet, every fox or badger, every moth or owl who has looked into the night has made one of the most important observations in the history of astronomy: The night sky is dark! The stars shine in a black sky, The Plough that is dragged about the pole furrows black soil. And the darkness of the night sky tells us more about the distant universe than do the stars. Black night is a paradox, rich in meaning.

...Our lives are rounded with dark. 'How insupportable would be the days, if the night with its dews and darkness did not come to restore the drooping world,' wrote Thoreau. 'As the shades begin to gather... we steal forth... like the inhabitants of the jungle, in search of those silent and brooding thoughts which are the natural prey of intellect.' The night sky is the hunting ground of the mystic and the philosopher, the scientist and the theologian. I have walked along a dark road on the brow of the hill for an hour. The Great Bear has clumped one-sixth of the way up the slope of the eastern sky. The Little Bear is swung by his tail about the pole. Zeus lusts for Callisto. Callisto lays down her quiver. Hera spins jealous designs. Callisto loves Arcas. Arcas is afraid. The arrow is poised on the bow.

'Tonight, in the infinitesimal light of the stars / The trees and flowers have been strewing their cool colors'; this is the third time in this night of meditation I have quoted from poems of Sylvia Plath. Each day is a little life, and each life is rounded with a little dark. The galaxies are rushing away from us, diluting their brilliance, darkening the sky. Night is the universe's youth. There are hedges at both sides of the road along which I walk, hedges of bramble and honeysuckle and fuchsia. The lanterns of the fuchsia dim their pale light, all their gaudy puce and scarlet gone, flown away with the galaxies. The universe is young. I walk in its adolescent light. Now there is time, 'the trees may touch me for once, and the flowers have time for me.'"<sup>5</sup>



<sup>1</sup> Reprinted by permission of *Hungry Mind Press*. Chet Raymo. *The Soul of the Night, An Astronomical Pilgrimage*. Copyright © 1992.

<sup>2</sup> <http://www.fiorella.com/>

<sup>3</sup> <http://www.artnetwork.com/music/emilia.html>

<sup>4</sup> <http://www.discoveryrec.com/artists/orbit/>

<sup>5</sup> *The Painting on the Wall*. Ken Fair, Jr. ©1997. Digital. <http://www.marswest.org/lisa1.html>

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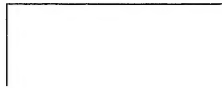
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